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Developed in Collaboration with Leading Scientists, New ResMed-Supported Research at ATS 2024 Provides Evidence of the Effectiveness and Critical Role of Positive Airway Pressure Therapy

Among 26 ResMed-supported abstracts, these were the highlights:

- *New findings show positive airway pressure (PAP) therapy reduced risks of death and hospitalization for patients with obstructive sleep apnea (OSA)*
- *Prevalence of OSA in the United States expected to increase 26.7% in men and women aged 30 –70*
- *Real-world trends of glucagon-like peptide-1 (GLP-1) receptor agonist and PAP therapy use show patients who were adherent to their GLP-1 medication had higher levels of PAP therapy use than those who were non-adherent to their GLP-1 medication*

SAN DIEGO, May 23, 2024 (GLOBE NEWSWIRE) -- A number of accomplished medical and scientific experts presented critical new research on sleep conditions and their effect on cardiovascular health at the American Thoracic Society International Conference. The ResMed-supported research provided new insights into the effectiveness of PAP therapy in treating sleep-disordered breathing and its associated clinical benefits. The studies were among 26 supported by ResMed (NYSE: RMD, ASX: RMD) in collaboration with leading scientists including Michael Arzt, MD, Universitätsklinikum Regensburg, Germany; Jean-Louis Pépin, MD, Grenoble Alpes University, France; Atul Malhotra, MD, University of California, San Diego; and Holger Woehrle, Ulm Lung Centre, Germany.

Real-world Trends of Glucagon-Like Peptide-1 (GLP-1) Receptor Agonists and PAP Therapy Use in OSA

With growing attention on the use of anti-obesity medications, such as GLP-1s in clinical practice, a timely study was presented by Dr. Atul Malhotra which explored the real-world relationship of GLP-1 medication use and PAP therapy in patients with OSA. The use of GLP-1s did not lead to higher discontinuation rates of PAP therapy, rather this analysis found that patients who were adherent to their GLP-1 medication had higher levels of PAP therapy use than those who were non-adherent to their GLP-1 medication.

PAP Therapy Continues to Lower Risks Associated with Sleep Disorders

Several studies demonstrated findings showing continued effectiveness of PAP therapies for patients with sleep disorder conditions like obstructive sleep apnea. Among these was an analysis of data from 27 randomized control trials and non-randomized control studies on the effects of PAP on patients with OSA. This meta-study, presented by Dr. Atul Malhotra, found mortality was 37% lower on average in patients with PAP-treated OSA vs untreated OSA.

An additional study, presented by German physician and sleep researcher Holger Woehrle, looked at 17,000 treatment-naïve patients in both PAP-treated and untreated cohorts and showed PAP treatment reduces hospitalization in patients with OSA over the first four years of treatment. This finding demonstrates a correlation between the use of PAP therapy and a reduction in use of healthcare resources.

Examining the Prevalence of Obstructive Sleep Apnea in the United States
A study presented by ResMed's research scientist Elroy Boers projected an increase in OSA cases in the United States using patient data calibrated across subgroups of age, sex and body-mass index (BMI). According to this research, due to the growing and aging population in the United States as well as increased BMI trends, the already substantial burden of OSA is expected to increase by 27.6% by 2050 in men and women aged 30-70, with an overall prevalence within this group projected to be 26%. As OSA continues to increase, reliance on PAP therapy will rise as it remains the gold standard for treatment.

Adaptive Servo-Ventilation Patients with Treatment Emergent or Persistent Central Sleep Apnea (TE-CSA) and Central Sleep Apnea induced by Opioid Use
Two studies evaluated the effects of Adaptive Servo-Ventilation (ASV) therapy in two populations, patients with TE-CSA and patients on long-term opioid therapy. The former, presented by German physician and sleep researcher Dr. Michael Arzt, demonstrated ASV therapy showed a reduced symptom burden and an improvement in quality of life for patients with TE-CSA, with or without comorbid cardiovascular disease*, a comorbidity present in a majority of patients with TE-CSA.

The second study, presented by French physician and researcher Dr. Jean-Louis Pépin, studied 86 CSA patients on long-term opioid therapy and who used ASV treatments for at least one year. This study showed a -1 median reduction in Epworth Sleepiness Scale (ESS) values and a median increase of .96 on the Functional Outcomes of Sleep Questionnaire (FOSQ), demonstrating a lower symptom burden and improved quality of life.

Reducing Risk of Death in COPD Patients with Non-Invasive Ventilation (NIV) at Home
Another study, also presented by Dr. Jean-Louis Pépin, looked at nearly 50,000 adults with COPD who were treated via domiciliary NIV. The study showed long-term home use of NIV was strongly associated with a reduced risk of death.

"The host of critical research presented by influential and accomplished experts at ATS continues to show the effectiveness and importance of PAP in treating sleep disordered breathing and limiting their impact on adverse health effects," said Carlos M. Nunez, MD, Chief Medical Officer at ResMed. "The increasing prevalence of cardiovascular conditions, obesity and an aging population in the United States demonstrate why increasing awareness of sleep health and conducting research into how best to improve sleep quality and overall health outcomes is so critical today."

In addition to the ResMed-supported abstracts, Dr. Nunez served as a panelist at two ATS

sessions: The Healthcare of Today, Looking Towards Tomorrow: Digital Innovations and Patient Centricity, which examined the imperative for investing in digital health and driving innovations for personalized patient experiences, as well as Enabled Clinicians, Enhanced Care: Best Practices for Leveraging Digital Health Solutions, which showcased how digital health solutions and digital therapeutics can find a place in today's clinical workflows.

*ASV therapy is contraindicated in patients with chronic, symptomatic heart failure (NYHA 2-4) with reduced left ventricular ejection fraction (LVEF ≤ 45%) and moderate to severe predominant central sleep apnea.

The complete list of ResMed-sponsored studies presented at ATS 2024 include:

- *Treatment of sleep-disordered breathing with adaptive servo-ventilation (READ-ASV) in opioid users – a European Registry*
- *8-year Trends in Obesity, Type 2 Diabetes, and Glucagon-like Peptide-1 (GLP-1) Use in Patients with Obstructive Sleep Apnea*
- *Impact of CPAP Termination on Permanent Work Disability in Obstructive Sleep Apnea: A French Nationwide Alaska Database Analysis*
- *Tailoring Social Support to Improve PAP Therapy Usage in Obstructive Sleep Apnea*
- *Examining Alignment of Patient Medication-taking Behaviors with Inhaler Usage Recommendations in Chronic Obstructive Pulmonary Disease and Asthma*
- *Using Natural Language Processing for Qualitative Research: Insights from a Real-world Analysis*
- *A Qualitative Analysis of Perceptions and Awareness of Air Pollution and Its Health Effects in Asthma Among Asthma-care Professionals Across Southern California*
- *An Estimate of the Prevalence of Obstructive Sleep Apnea in the United States Into 2050*
- *All-cause Mortality in Obstructive Sleep Apnea: Systematic Literature Review Including Randomized Trials and Confounding Adjusted Non-Randomized Controlled Studies and Meta-analysis of Positive Airway Pressure Treatment*
- *Impact of Positive Airway Pressure (PAP) Therapy on Hospitalization in Obstructive Sleep Apnea (OSA): Analysis of a German Healthcare Database*
- *Hypoxic Burden but Not AHI Predicts Risk of Cardiovascular Events: A Secondary Analysis of the RICCADSA Clinical Trial*
- *A Digital Quality Improvement Program Delivered by Clinical Pharmacists Can Reduce Acute Care Visits In COPD*
- *Hands-on Simulation Training with Home Ventilators Improves PCCM Fellow Understanding of Nocturnal NIV in Chronic Hypercapnia*
- *The Economic and Health Burden of COPD in North America Through 2050: A Scenario Analysis Based on Two Large Data Sources*
- *Impact of long-term domiciliary noninvasive ventilation (NIV) on severe exacerbations and survival in Patients with Chronic Obstructive Pulmonary Disease (COPD): a nationwide cohort study using multistate models*
- *Nocturnal Hypoxemic Burden and Micro- and Macrovascular Disease in Patients with Type 2 Diabetes*
- *Risk Factors for Severe Exacerbation Occurrence Among Patients With COPD-OSA Overlap Syndrome Using Bilevel Positive Airway Pressure Therapy*
- *Adherence to Glucagon-like Peptide-1 Receptor Agonists (GLP-1s) in Obstructive Sleep Apnea Patients with and Without Type 2 Diabetes*

- *Treatment of sleep-disordered breathing with adaptive servo-ventilation (READ-ASV) – outcomes in patients with treatment-emergent or persistent central sleep apnea (TE-CSA) in a European Registry*
- *A Scenario-based Modeling Study to Project the Future Burden of COPD in the United States Accounting for the Effects of E-cigarettes*
- *The Impact of Weight Change on Positive Airway Pressure Use In Patients With Obstructive Sleep Apnea And Obesity*
- *Real World GLP-1 Adherence in Patients with Treated Obstructive Sleep Apnea*
- *Less REM Sleep Predicts Mortality in Adults with Coronary Artery Disease and Obstructive Sleep Apnea: The RICCADSA Trial*
- *Gender Specific Differences in a National Sample of Individuals with Comorbid Insomnia, Obstructive Sleep Apnea (OSA), and Depression*
- *Use of Weight Management Regimens Among Positive Airway Pressure-Treated Patients with Obstructive Sleep Apnea and Obesity*
- *A Mixed-methods Exploration of Patient Perspectives on Pap Therapy Initiation: Implications for Improved Outreach and Education*

About ResMed

At ResMed (NYSE: RMD, ASX: RMD) we pioneer innovative solutions that treat and keep people out of the hospital, empowering them to live healthier, higher-quality lives. Our digital health technologies and cloud-connected medical devices transform care for people with sleep apnea, COPD, and other chronic diseases. Our comprehensive out-of-hospital software platforms support the professionals and caregivers who help people stay healthy in the home or care setting of their choice. By enabling better care, we improve quality of life, reduce the impact of chronic disease, and lower costs for consumers and healthcare systems in more than 140 countries. To learn more, visit ResMed.com and follow @ResMed.

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